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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/798,173	03/11/2004	Fritz Leber	ZAHFRI P603US	7577

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EXAMINER	
HOLMES, JUSTIN K	

ART UNIT	PAPER NUMBER
3681	

DATE MAILED: 08/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/798,173	LEBER ET AL.	
	Examiner	Art Unit	
	Justin K. Holmes	3681	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 July 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *12-23* is/are pending in the application.

4a) Of the above claim(s) *13 and 17* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *12,14-16 and 18-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *11 March 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *3/11/04and 5/17/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Applicant's election with traverse of Claims 12, 14-16 and 18-23 to the invention shown in Figs. 1-3 in the reply filed on July 27, 2005 is acknowledged. The traversal is on the ground(s) that the present invention contains two embodiments of a single inventive concept. Specifically, that the two species of the invention represent similar ways of obtaining the same desired results disclosed in the application. This is not found persuasive because there are two distinct embodiments of the invention as disclosed in the application. Specifically, Species 1 relates to a method for regulating a clutch so that an actual speed of the mobile vehicle corresponds to a specified speed. Species 2 is distinct since it is a separate embodiment of the invention that regulates the clutch so that the actual torque of the turbine rotor does not exceed a predefined specific torque. The embodiments are not interchangeable with each other and are distinct.

The requirement is still deemed proper and is therefore made FINAL.

2. Claims 13 and 17 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected Species 2.

3. Applicant is advised of possible benefits under 35 U.S.C. 119(a)-(d), wherein an application for patent filed in the United States may be entitled to the benefit of the filing date of a prior application filed in a foreign country.

Priority

4. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 12, 14-16, 19, 20 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S Patent No. 5,509,520 to Evans et al. in view of U.S. Patent No. Re. 34,833 to Hasegawa et al.

Regarding Claims 12 and 23, the Evans et al. patent teaches a method for operating a drive train 102 for an earth moving machine 100 having an engine 104 connected to a torque converter 106 with an impellor element 108 and a turbine element 112 to power a transmission114 such that the impeller element 108 is connected to an impeller clutch 116. See column 2, lines 36-61 and Fig. 1. The Evans et al. patent further teaches that impeller clutch is used to control the speed of the machine. The torque converter speed is determined and a torque converter speed error is determined by subtracting the measured torque converter speed form the desired speed and is used to control the speed of the machine. Thus the Evans et al. patent teaches that the actual speed of the machine corresponds to the desired speed of the vehicle. The Evans et al. patent lacks a teaching of the transmission powering an auxiliary drive driving at least one hydraulic pump. See column 4, lines 6-17.

The Hasegawa et al. patent teaches a vehicle transmission powering a pump shaft 18 connect to a hydraulic pump 16 to power a power take off shaft 23. See column 4, lines 15-29 and Fig. 1.

Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the Evans et al. device to include a transmission powering an auxiliary drive driving at least one hydraulic pump as taught by the Hasegawa et al. patent since the Evans et al. patent relates to a machine that uses hydraulics (see column 7, lines 13-23).

Regarding Claims 14 and 15, the Evans et al. patent teaches that the brakes are used to control the speed of the machine. Also, the brakes can be used to slow down the machine if the actual speed is greater than the specified speed. Column 4, lines 10-17.

Regarding Claim 16, the Evans et al. patent teaches that an electronic control module receives information from an engine speed sensor 128 to operate the clutch 118. Column 3, lines 1-20.

Regarding Claim 19, the Evans et al. patent teaches that an accelerator pedal is provided to manually control the speed of the engine. Column, 3, lines 40-45.

Regarding Claim 20, the Evans et al. patent teaches that an electrohydraulic control device 124 controls the actuation of the clutch and that the clutch is actuated using a proportional integral subroutine. See column 5, lines 65-67.

7. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S Patent No. 5,509,520 to Evans et al. as applied to claims 12, 14-16, 19, 20 and 23

above, and further in view of U.S. Patent Publication No. 2003/0000790 A1 to Ackerman.

The Evans et al. patent lacks the teaching of locating the clutch inside the converter housing and cooling the clutch by a liquid present in the converter housing.

The Ackerman publication teaches a hydrodynamic torque converter 1 having an outer housing 7 that encloses an impeller 17, turbine wheel 19 and a lockup clutch 56. The lockup clutch 56 includes a piston 54 and a friction lining 68. The friction lining 68 has grooves 80 that allow hydraulic fluid to enter to be used as a coolant to cool the clutch 56. See page 4, paragraph 0040 and 0044 and Fig. 2.

Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the Evans et al. patent to locate the clutch inside the converter housing and cooling the clutch by a liquid present in the converter housing as taught by the Ackerman publication to provide for effective cooling action in the friction area while good energy efficiency is still provided. See page 2, paragraph 0011 of Ackerman.

8. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S Patent No. 5,509,520 to Evans et al. as applied to claims 12, 14-16, 19, 20 and 23 above, and further in view of U.S. Patent No. 6,876,913 to Segawa et al.

The Evans et al. patent lacks a teaching that the clutch is actuated by an actuation pressure which is adjusted as a function of an actual pressure inside a converter housing.

The Segawa et al. patent teaches a torque converter 1, having an impeller 1a , a turbine runner 1b and a lockup clutch 2 which is actuated by a differential pressure (PA-PR) been an application pressure PA and a release pressure PR. The lockup clutch uses a controller programmed to calculate a speed increase of the rate of the turbine runner from the rotation speed of the turbine runner and determine a target oil pressure based on a pressure increase rate which is set to increase as the speed increase rate increase, and cause the oil pressure control valve to supply the target oil pressure to the lockup clutch. Accordingly, the actuation pressure of clutch is determined by the actual pressure inside the converter housing. See column 2, lines 11-39.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the Evans et al. patent to actuate the clutch by an actuation pressure which is adjusted as a function of an actual pressure inside a converter housing as taught by the Segawa et al. patent to prevent engine rotation speed fluctuation that accompanies the lockup of the lockup clutch. See column 2, lines 7-11 of the Segawa et al. patent.

9. Applicant cannot rely upon the foreign priority papers to overcome this rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

10. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S Patent No. 5,509,520 to Evans et al. as applied to claims 12, 14-16, 19, 20 and 23 above, and further in view of U.S. Patent Publication No. 2001/0017248 to Inoue et al.

The Evans et al. patent lacks a teaching of locating the clutch outside the converter housing and cooling the clutch by a coolant liquid.

The Inoue et al. publication teaches a fluid coupling 4 having a wet type multi plate friction clutch 8 outside the fluid coupling housing. The multi plate friction clutch 8 is lubricated and cooled by operation fluid that is fed into passage 891 to lubricate and cool portions of the multi plate friction clutch 8. See page 4, paragraph 0036 and Fig. 2.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the Evans et al. patent to locate the clutch outside the converter housing and cooling the clutch by a coolant liquid as taught by the Inoue et al. publication to provide a device that compactly circulates operation fluid through the fluid coupling and the wet type friction clutch. See page 1, paragraph 0006 of the Inoue et al. publication.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. patent no. 5,853350 to Hasegawa et al.; and U.S. patent publication no. 2004/0188207 to Leber that both teach control devices for clutches.

Facsimile Transmission

Submission of your response by facsimile transmission is encouraged. Group 3600's facsimile number is (571) 273-8300. Recognizing the fact that reducing cycle time in the processing and examination of patent applications will effectively increase a patent's term, it is to your benefit to submit responses by facsimile transmission whenever permissible. Such submission will place the response directly in our

examining group's hands and will eliminate Post Office processing and delivery time as well as the PTO's mail room processing and delivery time. For a complete list of correspondence not permitted by facsimile transmission, see MPEP 502.01. In general, most responses and/or amendments not requiring a fee, as well as those requiring a fee but charging such fee to a deposit account, can be submitted by facsimile transmission. Responses requiring a fee which applicant is paying by check should not be submitting by facsimile transmission separately from the check.

Responses submitted by facsimile transmission should include a Certificate of Transmission (MPEP 512). The following is an example of the format the certification might take:

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Typed or printed name of person signing this certificate:

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(Signature)

If your response is submitted by facsimile transmission, you are hereby reminded that the original should be retained as evidence of authenticity (37 CFR 1.4 and MPEP 502.02). Please do not separately mail the original or another copy unless required by the Patent and Trademark Office. Submission of the original response or a follow-up

copy of the response after your response has been transmitted by facsimile will only cause further unnecessary delays in the processing of your application; duplicate responses where fees are charged to a deposit account may result in those fees being charged twice.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Justin K. Holmes whose telephone number is (571) 272-5930. The examiner can normally be reached on 8:00am to 4:30pm Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles A. Marmor can be reached on (571) 272-7095. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JKH/8/18/05

Charles A. Marmor 8/19/05

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ART UNIT 3681